

AT-7101GHTm

PoE INJECTOR



Installation Guide

Copyright © 2021 Allied Telesis, Inc.

All rights reserved. No part of this publication may be reproduced without prior written permission from Allied Telesis, Inc.

Microsoft and Internet Explorer are registered trademarks of Microsoft Corporation. Netscape Navigator is a registered trademark of Netscape Communications Corporation. All other product names, company names, logos or other designations mentioned herein are trademarks or registered trademarks of their respective owners.

Allied Telesis, Inc. reserves the right to make changes in specifications and other information contained in this document without prior written notice. The information provided herein is subject to change without notice. In no event shall Allied Telesis, Inc. be liable for any incidental, special, indirect, or consequential damages whatsoever, including but not limited to lost profits, arising out of or related to this manual or the information contained herein, even if Allied Telesis, Inc. has been advised of, known, or should have known, the possibility of such damages.

Electrical Safety and Emissions Standards

This section contains the following:

- “US Federal Communications Commission”
- “Industry Canada”
- “Emissions, Immunity and Electrical Safety Standards” on page 4
- “Translated Safety Statements” on page 4

US Federal Communications Commission

Radiated Energy

Note

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note

Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

Industry Canada

Radiated Energy


This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Emissions, Immunity and Electrical Safety Standards

Standard	RoHS compliant
EMI	FCC Class A, EN55032 Class A, CISPR 55032, VCCI Class A, RCM, UKCA, EAC, NOM, BIS
EMS	IEC61000-4-2:1995 IEC61000-4-3 IEC61000-4-4 IEC61000-4-5 IEC61000-4-6 IEC61000-4-8 IEC61000-4-11 IEC61000-3-2 IEC61000-3-3

Translated Safety Statements

Important: The  indicates that a translation of the safety statement is available in a PDF document titled *Translated Safety Statements* on the Allied Telesis website at www.alliedtelesis.com/support.

Contents

Preface	7
Safety Symbols Used in this Document	8
Contacting Allied Telesis	9
Chapter 1: Introduction	11
Description	12
Features	13
Maximum Distance	13
Installation Options	13
LEDs	13
Power Supply	14
Chapter 2: Installing the Hardware	15
Reviewing Safety Precautions	16
Choosing a Site for the PoE Injector	18
Unpacking the PoE Injector and Power Adapter	19
Installing the AT-7101GHTm PoE injector	22
Installing the PoE Injector on a Desktop	23
Installing the PoE Injector on a Wall	24
Installing the PoE Injector on a Wall	24
Installing the Power Adapter on a Wall	26
Installing the Clamp to the Power Cord and Plug the Power Adapter	29
Cabling the PoE Injector	31
Appendix A: Specifications	33
Physical Specifications	33
Environmental Specifications	33
Power Specifications	33
RJ-45 Twisted Pair connector	34

Preface

This manual is the installation guide for the AT-7101GHTm PoE injector.

The Preface contains the following sections:

- “Safety Symbols Used in this Document” on page 8
- “Contacting Allied Telesis” on page 9

Safety Symbols Used in this Document

This document uses the following conventions:

Note

Notes provide additional information.



Caution

Cautions inform you that performing or omitting a specific action may result in equipment damage or loss of data.



Warning

Warnings inform you that performing or omitting a specific action may result in bodily injury.

Contacting Allied Telesis

If you need assistance with this product, you may contact Allied Telesis technical support by going to the Services & Support section of the Allied Telesis web site at **www.alliedtelesis.com/support**. You can find links for the following resources on this page:

- ❑ Helpdesk (Support Portal) - Log onto Allied Telesis interactive support center to search for answers to your questions in our knowledge database, check support tickets, learn about Return Merchandise Authorizations (RMAs), and contact Allied Telesis technical experts.
- ❑ Software Downloads - Download the latest software releases for your product.
- ❑ Licensing - Register and obtain your License key to activate your product.
- ❑ Product Documents - View the most recent installation guides, user guides, software release notes, white papers and data sheets for your product.
- ❑ Warranty - View a list of products to see if Allied Telesis warranty applies to the product you purchased and register your warranty.
- ❑ Allied Telesis Helpdesk - Contact a support representative.

For sales or corporate contact information, go to **www.alliedtelesis.com/contact** and select your region.

Chapter 1

Introduction

This chapter provides an introduction to the AT-7101GHTm PoE injector.

This chapter contains the following sections:

- “Description” on page 12
- “Features” on page 13

Description

The AT-7101GHTm Power over Ethernet (PoE) Injector is a midspan device to be installed between a non-PoE switch and a Powered Device (PD). The PoE injector makes the port of the non-PoE switch functioning like a PoE switch port and provides power to the PD through the LAN port. See Figure 1 as an installation example.

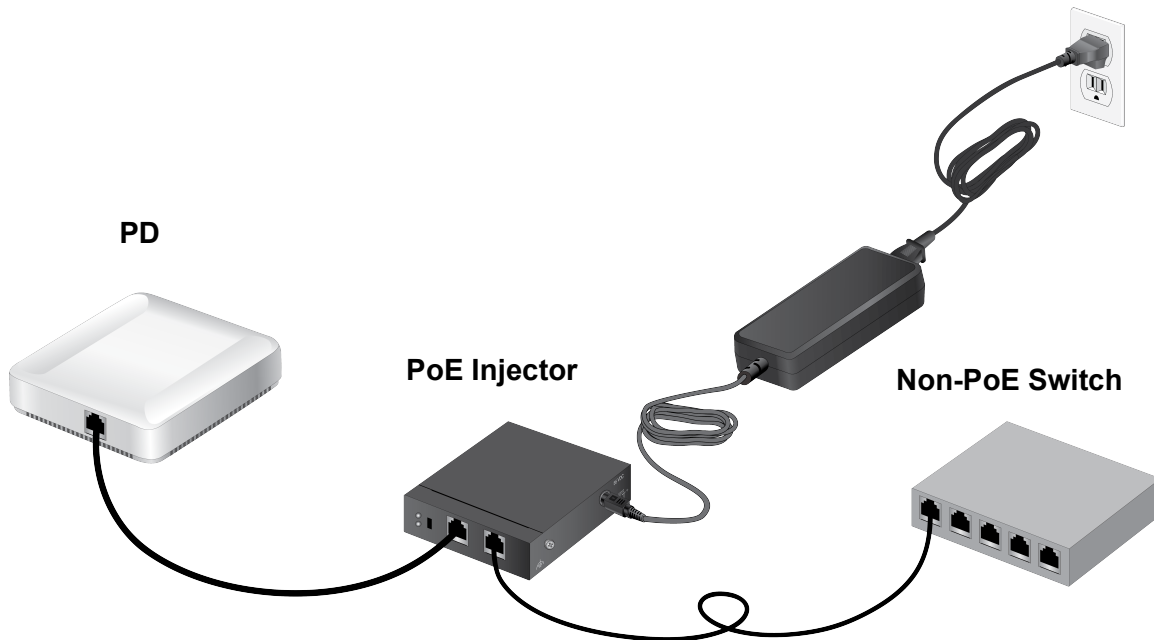


Figure 1. Example of the AT-7101GHTm Cable Usage Example

The AT-7101GHTm PoE Injector is equipped with two LAN ports, LEDs, and AC power input connector. See Figure 2.



Figure 2. AT-7101GHTm PoE Injector

Features

Here are the features of the AT-7101GHTm PoE Injector:

- 10M/100M/1G/2.5G/5G Ethernet copper port with PoE output
- 10M/100M/1G/2.5G/5G Ethernet copper port
- Overload and short circuit protection
- Plug-and-play
- PoE input power: 63W
- PoE output power: 60W
- Minimum PoE output voltage: 50V
- IEEE802.3af/at/bt Type 3 complaint

Maximum Distance

One port has a maximum operating distance of 100 meters (328 feet).

Installation Options

The PoE injector may be installed in the following ways:

- Desktop or tabletop
- Wall mounting

LEDs

The LEDs are shown in Figure 3 and described in Table 1 on page 14.

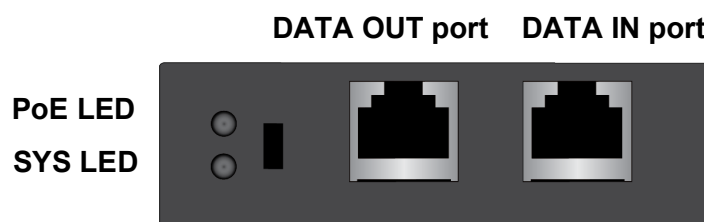


Figure 3. LEDs on the AT-7101GHTm PoE Injector

Table 1. LEDs

LED	State	Description
Sys	Off	No AC power is being provided to the unit.
	Solid Green	AC power is being provided to the unit.
PoE	Off	The system is not providing PoE power to the DATA OUT port.
	Solid Green	The system is providing PoE power to the DATA OUT port.

Power Supply

The AT-7101GHTm PoE Injector comes with one AC power adapter. It powers the PoE injector, which provides PoE to the connected PD through the DATA OUT port. See “Power Specifications” on page 33.

Chapter 2

Installing the Hardware


This chapter contains the following sections:

- “Reviewing Safety Precautions” on page 16
- “Choosing a Site for the PoE Injector” on page 18
- “Unpacking the PoE Injector and Power Adapter” on page 19
- “Installing the AT-7101GHTm PoE injector” on page 22
- “Installing the PoE Injector on a Desktop” on page 23
- “Installing the PoE Injector on a Wall” on page 24

Reviewing Safety Precautions

Review the following safety precautions before you begin to use the AT-7101GHTm PoE Injector.

Note

The  indicates that a translation of the safety statement is available in a PDF document titled “Translated Safety Statements” posted on the Allied Telesis website at www.alliedtelesis.com/library.




Warning

To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables.

 E1




Warning

Do not work on equipment or cables during periods of lightning activity.  E2




Warning


Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord.  E3




Warning

Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.  E4

Note

Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible.  E5

Note

All Countries: Install product in accordance with local and National Electrical Codes.  E8



Warning

Only trained and qualified personnel are allowed to install or replace this equipment. ⚡ E14

Note

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern. ⚡ E21



Warning

To reduce the risk of electric shock, the PoE ports on this product must not connect to cabling that is routed outside the building where this device is located. ⚡ E40



Caution

The unit does not contain serviceable components. Please return damaged units for servicing. ⚡ E42

Choosing a Site for the PoE Injector

Observe these guidelines when planning the installation of the PoE injector:

- ❑ If you plan to install the PoE injector on a table, the table should be level and stable.
- ❑ The power outlet should be located near the PoE injector and be easily accessible.
- ❑ The site should allow for easy access to the ports on the front of the PoE injector, so that you can easily connect and disconnect cables, and view the port LEDs.
- ❑ The site should not expose the PoE injector to moisture or water.
- ❑ The site should be a dust-free environment.
- ❑ To install the PoE injector on a desktop or tabletop, the PoE injector should be installed with the top panel looking up and the front panel on the side. See Figure 4.



Figure 4. Installation Orientation on a Desktop or Tabletop

- ❑ The PoE injector should be installed level on a wall. The front panel can be facing up, down, left or right. Figure 5 shows the PoE injector installed level with the front panel facing to the left.

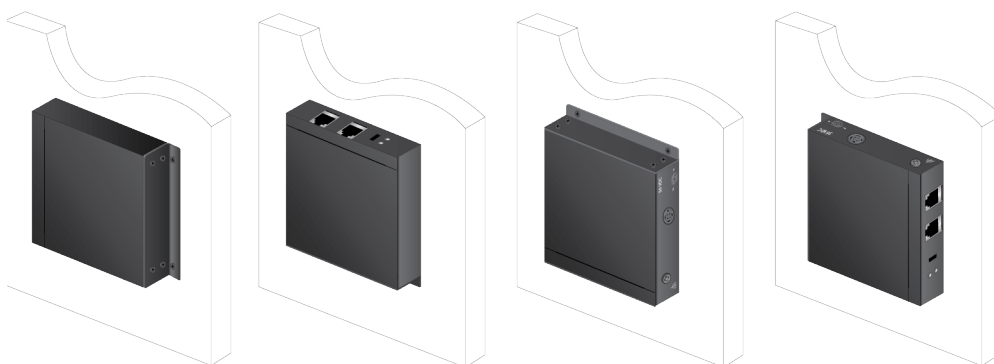


Figure 5. Installation Orientations on a Wall

Unpacking the PoE Injector and Power Adapter

To unpack the PoE injector and power adapter , perform the following procedure:

1. Remove all components from the shipping boxes.

Note

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

2. Verify that all components listed in Table 2 and Table 3 on page 20 are included in your shipping boxes:

Table 2. Components for the PoE Injector







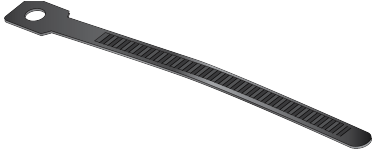
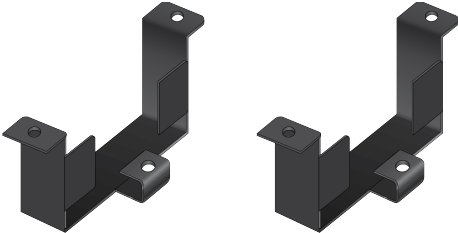

Name	Component
PoE injector	
Wall-mount bracket	
Screws (M3x5mm) x 4 for attaching brackets	

Table 3. Components for the Power Adapter

Name	Component
AC Power adapter	
Power cord	
Clamp to retain the power cord to the	
Cable tie	
Wall-mount Bracket x 2	
Screw (M3x5mm) for the cable tie	

3. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.

Note

Do not attempt to install any damaged Poe injector. If the device is damaged, report it to Allied Telesis. See “Contacting Allied Telesis” on page 9.

Installing the AT-7101GHTm PoE injector

The AT-7101GHTm PoE Injector can be mounted on a desktop or wall. Select one of the following procedures:

- “Installing the PoE Injector on a Desktop” on page 23
- “Installing the PoE Injector on a Wall” on page 24

The AT-7101GHTm PoE Injector is to be installed between a non-PoE capable switch and a Powered Device (PD) such as a wireless access point or IP camera. See Figure 6 as an example.

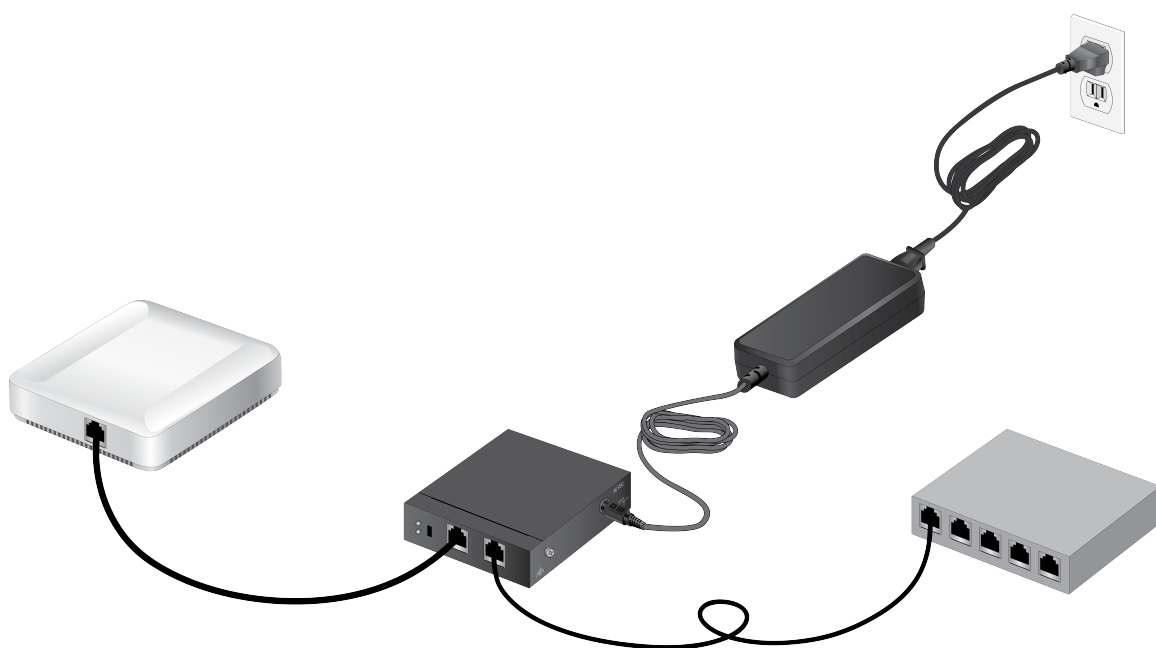


Figure 6. Example of the AT-7101GHTm Usage

Installing the PoE Injector on a Desktop

To install the AT-7101GHTm PoE Injector, perform the following procedure:

Note

You need two Ethernet cables.

1. Review “Reviewing Safety Precautions” on page 16.
2. Place the PoE injector on a flat, secure surface, such as a desk or table, leaving ample space around the unit for ventilation.
3. Connect the 4-pin Mini DIN connector of the power adapter to the PoE injector. See Figure 7.

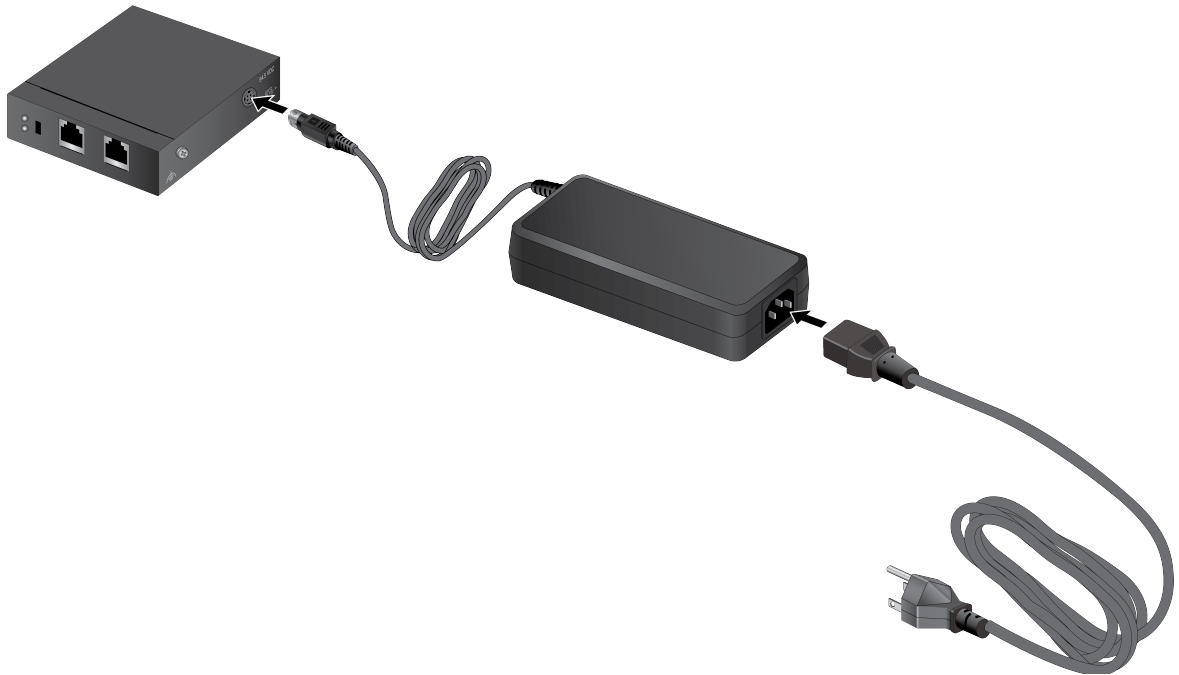


Figure 7. Connecting the Power Adapter to the PoE Injector

4. Connect the power cord to the power adapter as shown in Figure 7.
5. Plug the power adapter to a power outlet.

The PoE injector is now ready for use.

6. Connect the DATA IN port on the PoE injector to a non-PoE switch port with an Ethernet cable.
7. Connect the PoE OUT port to a PD with an Ethernet cable.

Installing the PoE Injector on a Wall

The AT-7101GHTm PoE Injector and power adapter can be installed on a wall. Perform the following sections:

- ❑ “Installing the PoE Injector on a Wall,” next
- ❑ “Cabling the PoE Injector” on page 31
- ❑ “Installing the Power Adapter on a Wall” on page 26
- ❑ “Installing the Clamp to the Power Cord and Plug the Power Adapter” on page 29

Installing the PoE Injector on a Wall

To install the AT-7101GHTm PoE Injector on a wall, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 16.
2. Provide the following items:
 - ❑ PoE injector
 - ❑ Bracket (included in the shipping box)
 - ❑ Four screws (M3x5mm) to attach the bracket to the PoE injector (included in the shipping box)
 - ❑ Phillips-head screwdriver (not included)
 - ❑ Two screws to install the bracket to the wall (not included)
3. Place the PoE injector on a flat, secure surface, such as a desk or table.
4. Align the bracket to the PoE injector as shown in Figure 8.

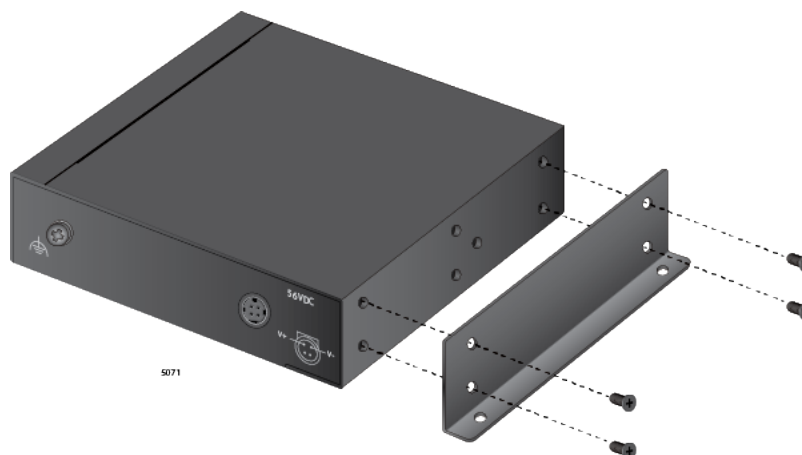


Figure 8. Aligning the Bracket to the PoE Injector

5. Tighten the four screws with a Phillips-head screw driver to attach the bracket to the PoE injector as shown in Figure 9 on page 25.



Figure 9. Attaching the Bracket to the PoE Injector

6. Install the PoE injector unit on the wall with two screws as shown in Figure 8.

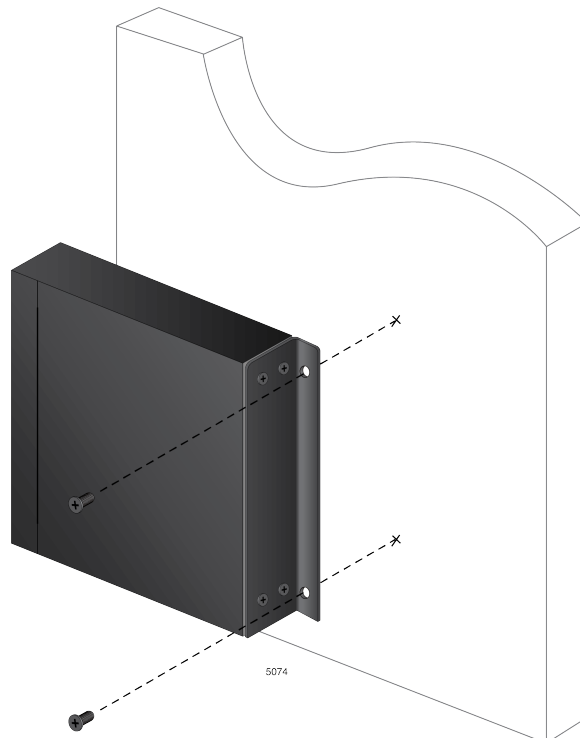


Figure 10. Installing the PoE Injector Unit on the Wall

7. If you install the power adapter to the wall, go to “Installing the Power Adapter on a Wall” on page 26.
8. Go to “Installing the Clamp to the Power Cord and Plug the Power Adapter” on page 29.

Installing the Power Adapter on a Wall

To install the AT-7101GHTm PoE Injector on a wall, perform the following procedure:

1. Provide the following items:
 - Power Adapter
 - Two Brackets for the power adapter (included in the shipping box)
 - Cable tie (included)
 - One screw (M3x5mm) to attach the cable tie
 - C13/C15 Power cord (included)
 - Phillips-head screwdriver (not included)
 - Four screws to attach the brackets to the wall (not included)
2. Place the power adapter on a flat, secure surface, such as a desk or table.
3. To attach the cable tie to the one of the bracket, align the cable tie to the bracket as shown in Figure 11.

Note

The cable tie has two sides. One side has a few teeth at the pointy edge and the other side has teeth from the edge to edge. For the orientation in Figure 8, the side with a few teeth must be up and visible.

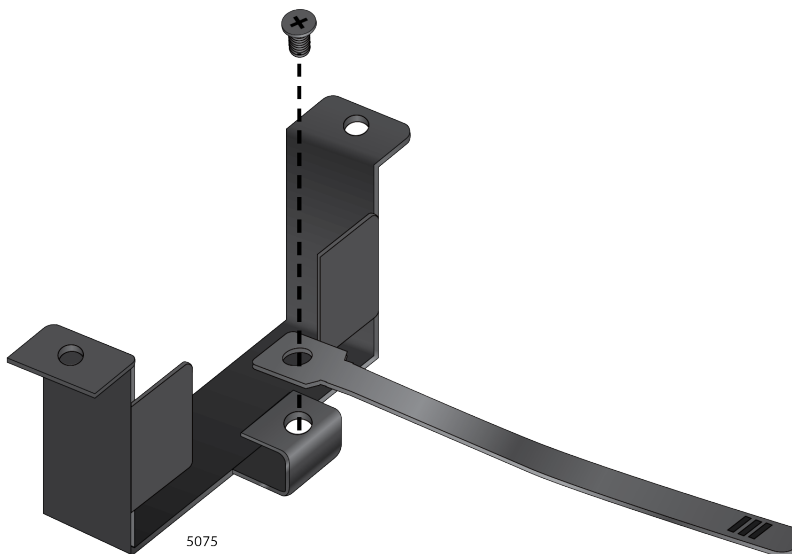


Figure 11. Aligning the Cable Tie to the Bracket

4. Tighten the screw with a Phillips-head screwdriver to attach the cable tie to the power adapter bracket. See Figure 12 on page 27.

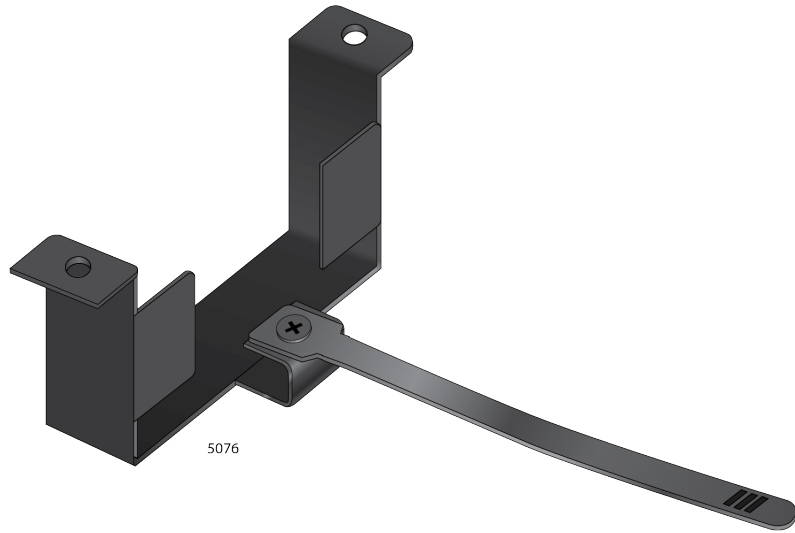


Figure 12. Attaching the Cable Tie to the Bracket

5. Flip the side of the bracket unit. Figure 13.

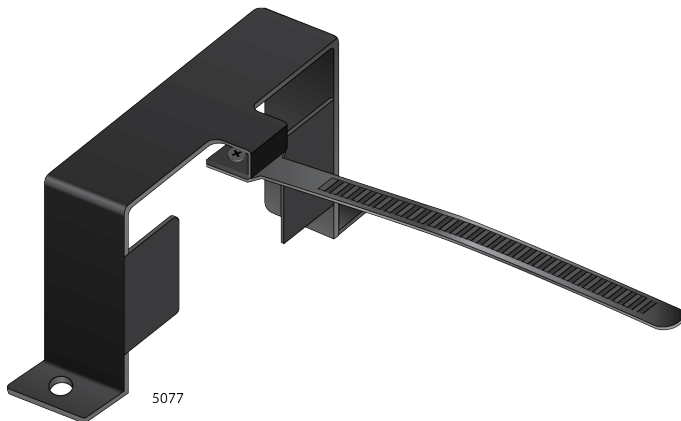


Figure 13. The Power Adapter Bracket with the Cable Tie

6. Attach the power cord with the 4-pin Mini DIN connector to the power adapter.
7. Align the brackets on the power adapter as shown in Figure 14 on page 28.

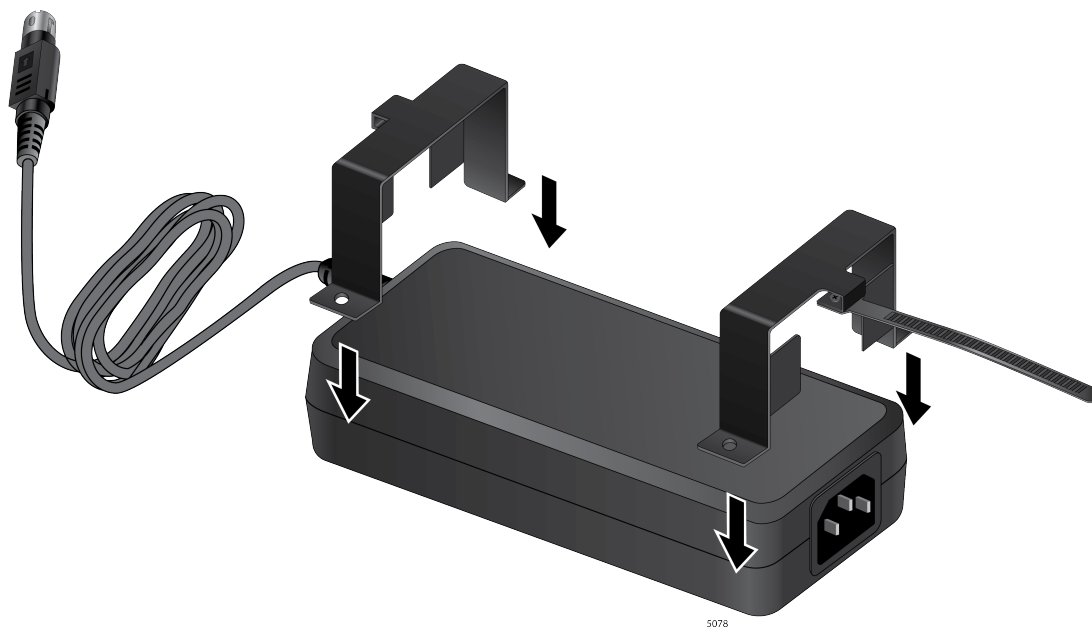


Figure 14. Aligning the Brackets to the Power Adapter

8. Place the brackets on the power adapter. See Figure 15 on page 28.

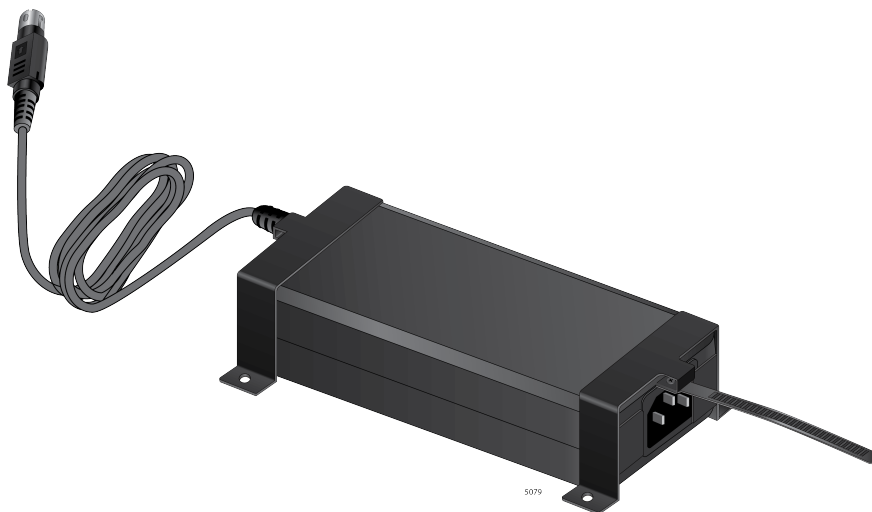


Figure 15. The Power Adapter with the Brackets

9. Place the power adapter unit on the wall where you want to install it. See Figure 16.

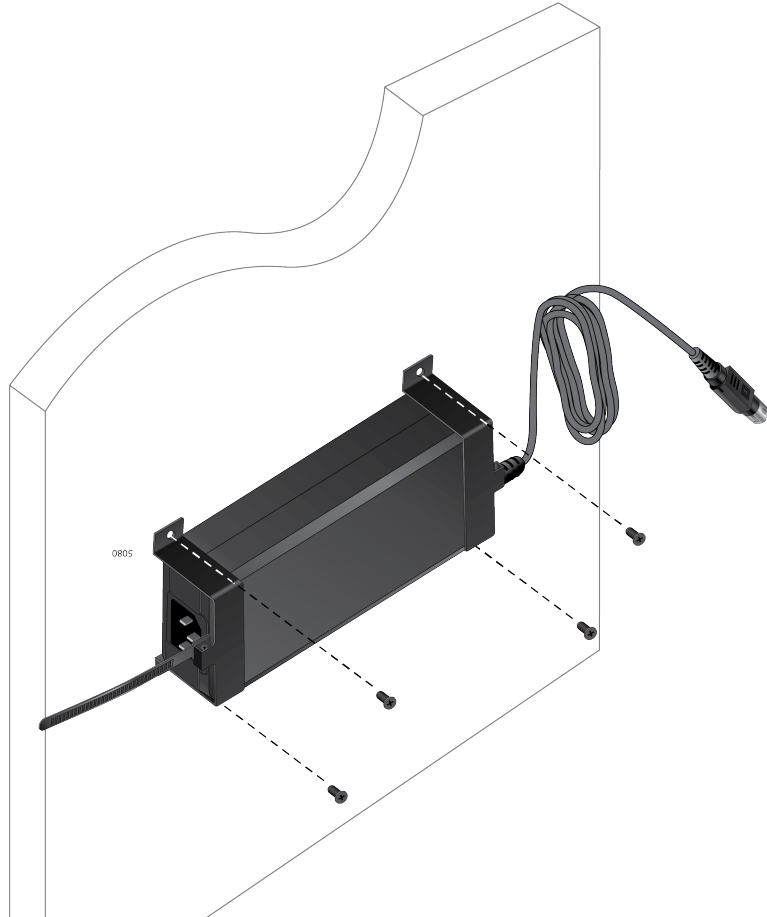


Figure 16. Installing Power Adapter on the Wall

10. Install the power adapter unit on the wall with the four screws using a Phillips-head screw driver as shown in Figure 16 on page 29.
11. Go to “Installing the Clamp to the Power Cord and Plug the Power Adapter” on page 29.

Installing the Clamp to the Power Cord and Plug the Power Adapter

When the power adapter is installed on a wall, install the clamp and connect to the cable tie on the bracket to prevent the power cord connection from coming loose.

To install the clamp to the power cord and plug in the power adapter, perform the following procedure:

1. Provide the following items:
 - Power cord to the power outlet (included in the shipping box)
 - Clamp (included in the shipping box)
 - Phillips-head screwdriver (not included)

2. Attach the clamp loosely near the female connector of the power cord shown as in Figure 17.

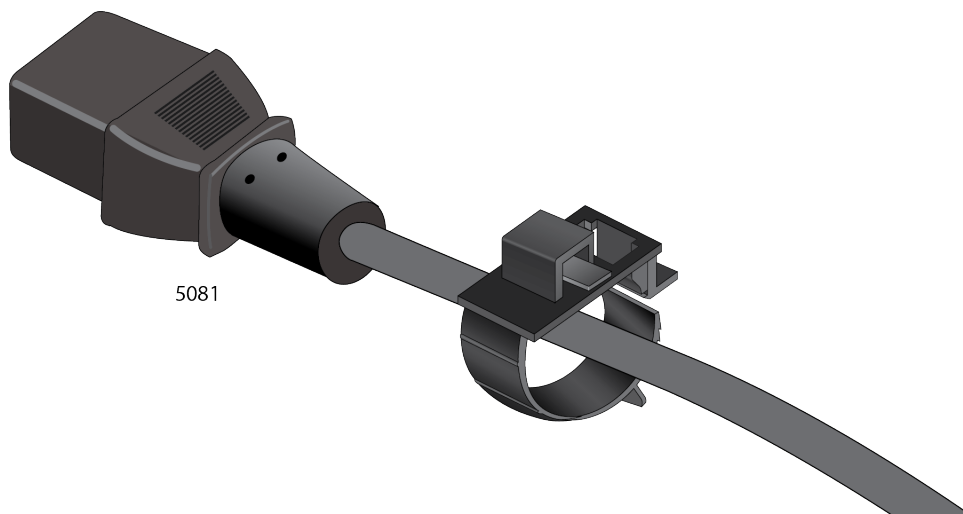


Figure 17. Fastening the Clamp near the Power Cord Connector

3. Connect the power cord to the power adapter, then slide the pointy edge of the cable tie into the opening on the clamp as shown in Figure 18 on page 30.

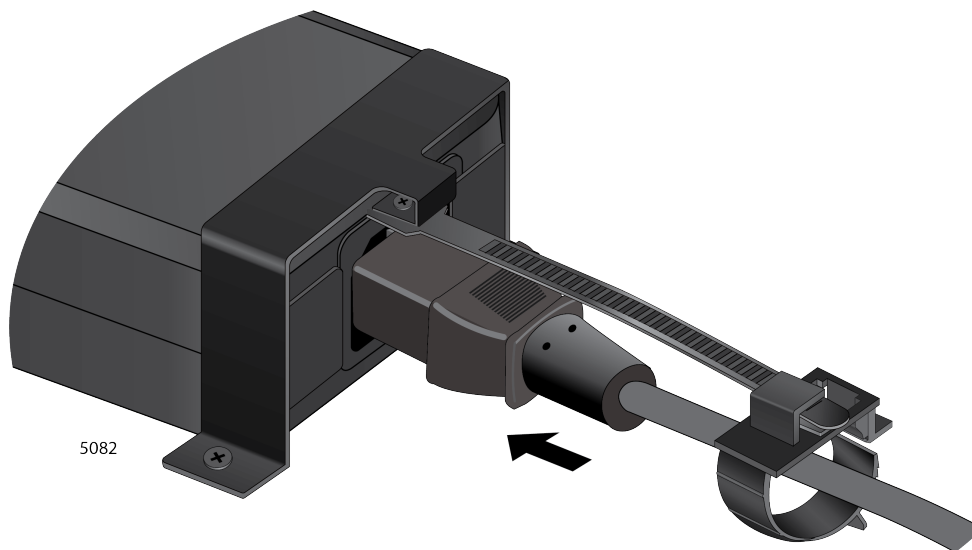


Figure 18. Connecting the Cable Tie and Clamp

4. Pull the edge of the cable tie and fasten the clamp to secure the power connector to the power adapter. See Figure 19.

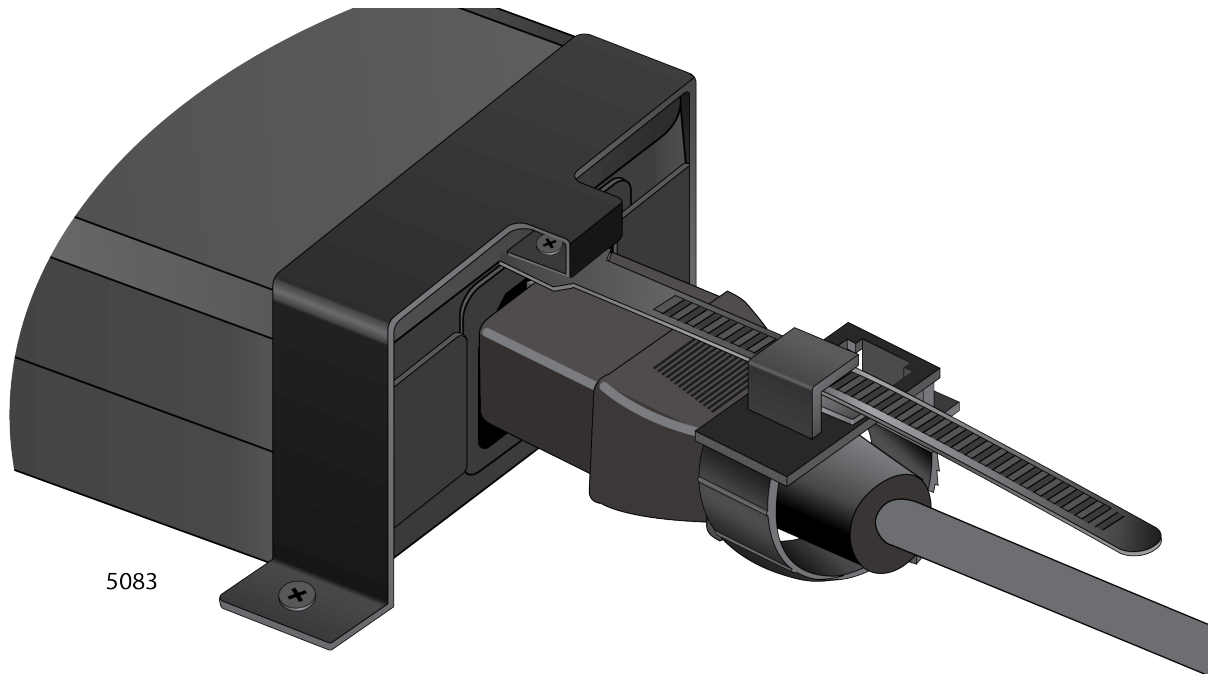


Figure 19. Securing the Power Connector to the Power Adapter

5. Plug the power adapter to a power outlet.

The PoE injector is now ready for use.

Cabling the PoE Injector

To cable the PoE injector, perform the following procedure:

1. Connect the DATA IN port on the PoE injector to a non-PoE switch port with an Ethernet cable.
2. Connect the PoE OUT port on the PoE injector to a PD.

The PoE OUT port provides power along with transmitting and receiving data.

3. Check the LEDs to ensure the PoE injector is working properly.

Appendix A

Specifications

Physical Specifications

Dimensions (L x W x H):	84 mm X 80 mm X 25 mm (3.3 in. x 3.2 in. x 1.0 in.)
Weight:	500g (17.6 oz)
Cable length:	1.83 m (72 in.)

Environmental Specifications

Operational Temperature (PoE injector with power adapter):	0°C to 40°C (32°F to 104°F)
Storage Temperature (PoE injector):- (AC adapter):	-40°C to 75°C (-40°F to 167°F) -20°C to 70°C (-4°F to 158°F)
Operating Humidity:	10% to 90% (non-condensing)
Storage Humidity:	5% to 90% (non-condensing)

Power Specifications

Table 4. Power Specifications

Power supply from AC adapter	56 VDC, 1.16A, LPS
PoE	56 VDC

RJ-45 Twisted Pair connector

This section lists the RJ-45 connector pinouts for the AT-7101GHTm PoE Injector.

Figure 20 illustrates the physical pin layouts of the RJ-45 connector and receptor.

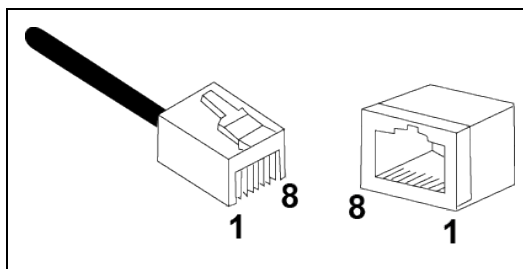


Figure 20. RJ-45 Connector and Receptor Pin Layout

Table 5 lists the pin signals at the RJ-45 connector.

Table 5. Pin Signals

Pin Number	Console RJ-45 Type1	Console RJ-45 Type2	RJ-45
1	RTS	RTS	CTS
2	DTR	Not in Use	DSR
3	TxD	TxD	RxD
4	GND	GND	GND
5	GND	GND	GND
6	RxD	RxD	TxD
7	DSR	Not in Use	DTR
8	CTS	CTS	RTS